CONFIDENTIAL

~~CONFIDENTIAL~~ unclassified

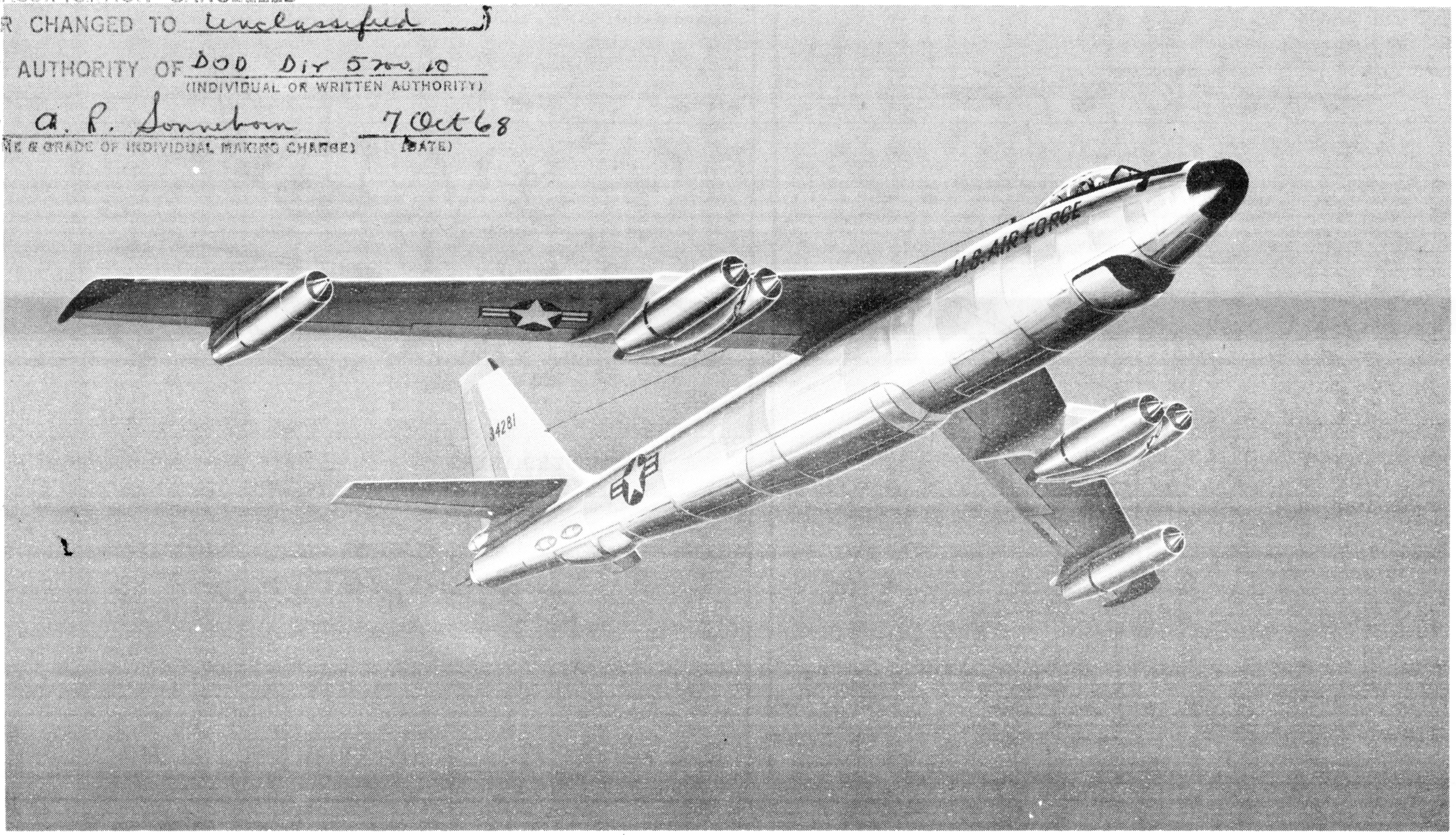
A-1 (R)B-47H (chart)

SERVICE

CLASSIFICATION CANCELLED
(OR CHANGED TO unclassified)
BY AUTHORITY OF DOD Dir 5200.10
(INDIVIDUAL OR WRITTEN AUTHORITY)
BY a. R. Sonnebom 7 Oct 68
(NAME & GRADE OF INDIVIDUAL MAKING CHANGE) (DATE)

CLASSIFICATION CANCELLED
(OR CHANGED TO) Unclassified
BY AUTHORITY OF DOD Dir 5200.10
(INDIVIDUAL OR WRITTEN AUTHORITY)
BY a. R. Sonnebom 20 Aug 68
(NAME & GRADE OF INDIVIDUAL MAKING CHANGE)

Classification cancelled
or changed to Unclassified
AUTH: AFSC- AFSC Sec. class. Guide 1 Jan 64
By a. R. Sonnebom 1 Apr 64
Signature and Grade



Standard Aircraft Characteristics

BY AUTHORITY OF
THE SECRETARY
OF THE AIR FORCE

RB-47H

STRATOJET

Boeing

SIX J47-GE-25

GENERAL ELECTRIC

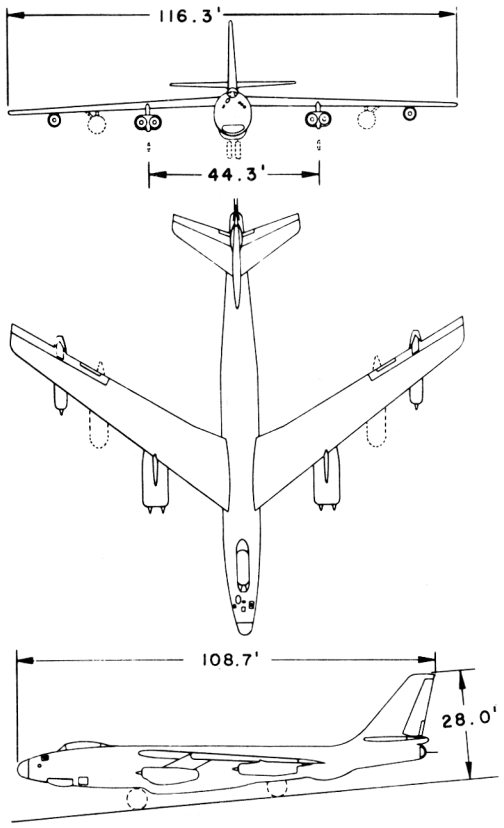
25 SEP 56

Classification cancelled
or changed to
AUTH: Issue of 16 Nov 59
By [signature] 12/7/60

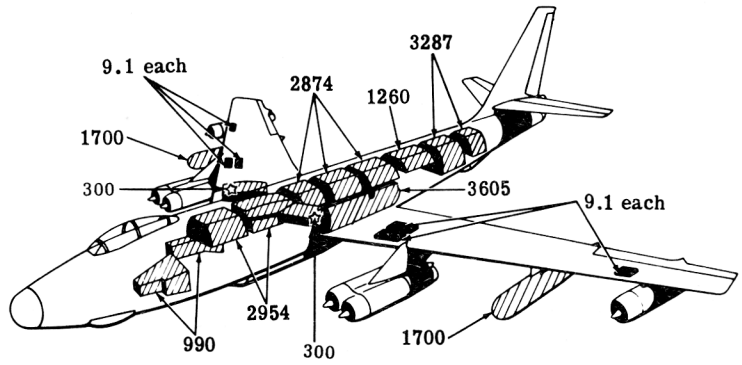
~~CONFIDENTIAL~~

RB-47H

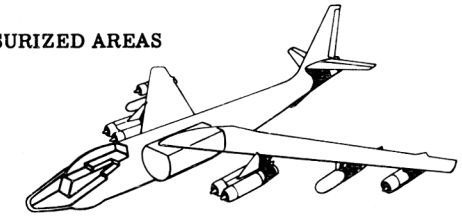
57WC-4984



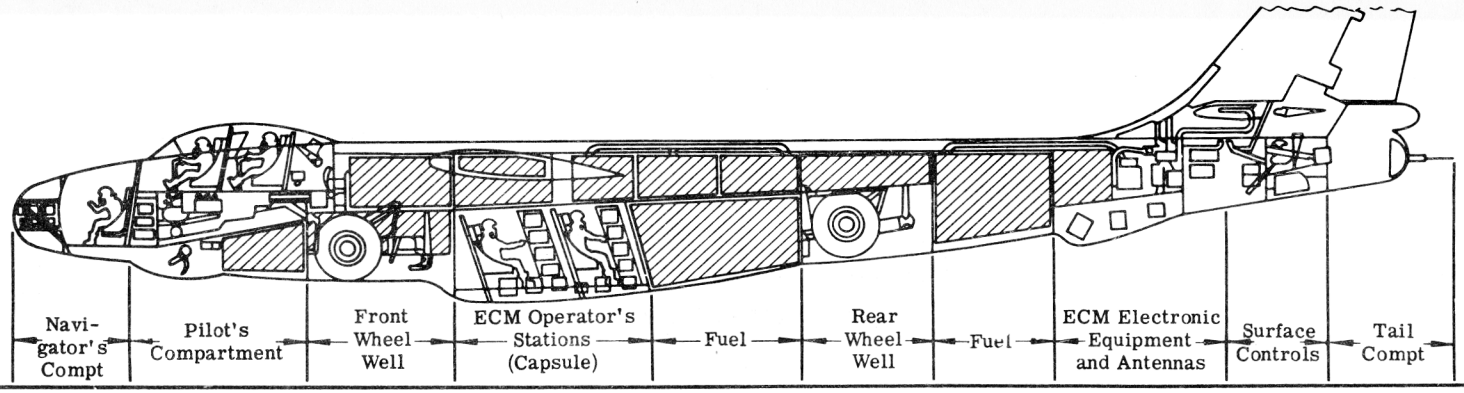
Wing Area . . . . . 1428 sq ft
Aspect Ratio 9.43
Wing Section . . . . . Boeing 145
M.A.C. . . . . 156"



PRESSURIZED AREAS



Fuel (Gal) ☆ Water Alcohol (Gal) Oil (Gal)



POWER PLANT

Nr & Model	(6)J47-GE-25
Mfr	General Electric
Engine Spec Nr	E-597a
Type	Axial Flow
Length	144"
Diameter	39.3"
Weight (dry)	2707 lb
Tail Pipe	Fixed Area
Augmentation	Water/Alcohol

ATO

Nr. & Model	*(33) 14AS1000
Mfr	Aerojet
Weight(loaded)	200 lb ea

or

Nr. & Model	(19) 15KS1000
Mfr	Aerojet
Weight (loaded)	131 lb ea

*See note d, page 6

ENGINE RATINGS

S.L.Static	LB - RPM - MIN
Max:	*7200 - 7950 - 5
	5970 - 7950 - 5
Mil:	5670 - 7800 - 30
Nor:	5320 - 7630 - Cont

*wet
water flow of 650 lb/min

ATO

Thrust (lb)	33,000
Duration (sec)	14

or

Thrust (lb)	19,000
Duration (sec)	15

DIMENSIONS

Wing	
Span	116.3'
Incident	2°45'
Dihedral	0°
Sweep (LE)	36°37'
Length	108.7'
Height	28.0'
Tread (outrigger)	44.3'

GUNS

No.	Type	Size	Rds ea.	Loc
2.	M24A1	20mm	350	Tail

Mission and Description

Navy Equivalent: None Mfr's Model: 450-172-52

The tactical mission of this airplane is the detection and location of land and naval surface radar stations. Three ECM crew stations shall be housed in a separate pressurized compartment located in the area formerly occupied by the short bomb bay. The airplane shall be designed to attain range, high speed, and tactical operating altitude in that order of preference.

The normal RB-47H crew consists of pilot, co-pilot, observer, and three ECM operators, one operator each for the high, medium, and low frequencies.

Features incorporated for improved crew comfort and efficiency are automatic heating, ventilation, and pressurization; nesa glass de-icing for the pilot's windshield; defrosting of windshield, nose window, and other transparent sections by recirculated cabin air; thermal anti-icing for wings and empennage; and hydraulic boost on all control surfaces. Crew ejection seats are provided for inflight escape. The pilot and co-pilot are ejected upward, the observer and three ECM operators downward.

The APQ-31A navigational system equipped with a 5-inch scope is used. A two-gun turret incorporating a radar computer at the co-pilot's station is installed. A rotatable seat allows the co-pilot to face aft while functioning as the A-5 fire control system operator.

Other features are single point and air refueling, an approach chute to increase drag, drag chute for decreasing landing roll distance, and an anti-skid braking device.

Development

Design Initiated:	Aug 53
Mockup Inspection:	Jan 54
CTCI:	Mar 55
First Flight:	Jun 55
First A/P Delivered:	Jul 55

ELECTRONICS

VHF Command	AN/ARC-27	Wire Recorder	AN/ANH-2
Interphone	AN/AIC-10	Static Discharger	AN/ASA-3
Omni-Direc Recv'r	AN/ARN-14	ECM	AN/ALT-7
Nav Radar	AN/APQ-31A	ECM	AN/APT-9
Fire Control System	A-5	ECM	AN/APT-16A
Rendezvous Equip	AN/APN-76C	IFF	AN/APX-6A & -25
Radar Set	AN/APR-14	Radio Compass	AN/ARN-6
Radar Set	AN/APR-9B	Glide Path Recv'r	AN/ARN-18
Radar Set	AN/ARR-8B	Marker Beacon	AN/ARN-12
Radar Set	AN/ALA-6	Emergency Keyer	AN/ARA-26
Radar Set	AN/APD-4	Warning Equip	AN/APS-54
Analyzer	AN/ALA-5	Liaison Radio	AN/ARC-21X
Analyzer	AN/APA-74		

WEIGHTS

Loading	LB	L.F.
Empty	83,642(E)	
Basic	84,661(E)	
Design	125,000	3.0
Combat	*136,955	
Max T.O.	†220,600	2.0
Max Inflight	‡221,000	2.0
Max Inflight	**198,000	
Design Land	125,000	

(E) Estimated
* For Basic Mission
† Capacity Limited
‡ With External Tanks
** Without External Tanks

FUEL

Location	Nr. Tanks	Gal
Fwd Main**	5	2954
Fwd Aux	2	990
Ctr Main*	3	2874
Bomb Bay	1	3605
Aft Main*	2	3287
Wing Drop	2	3400
Aft Aux	1	1260
	Total	18,370

Grade	JP-4
Specification	MIL-F-5624A

*Self-sealing
*Self-sealing except for three wing cells of forward main tank

OIL

Wing Panel	6	Total 54.6
Grade		1005
Specification		MIL-L-6081A

WATER/ALCOHOL

Wing Inboard	6	600

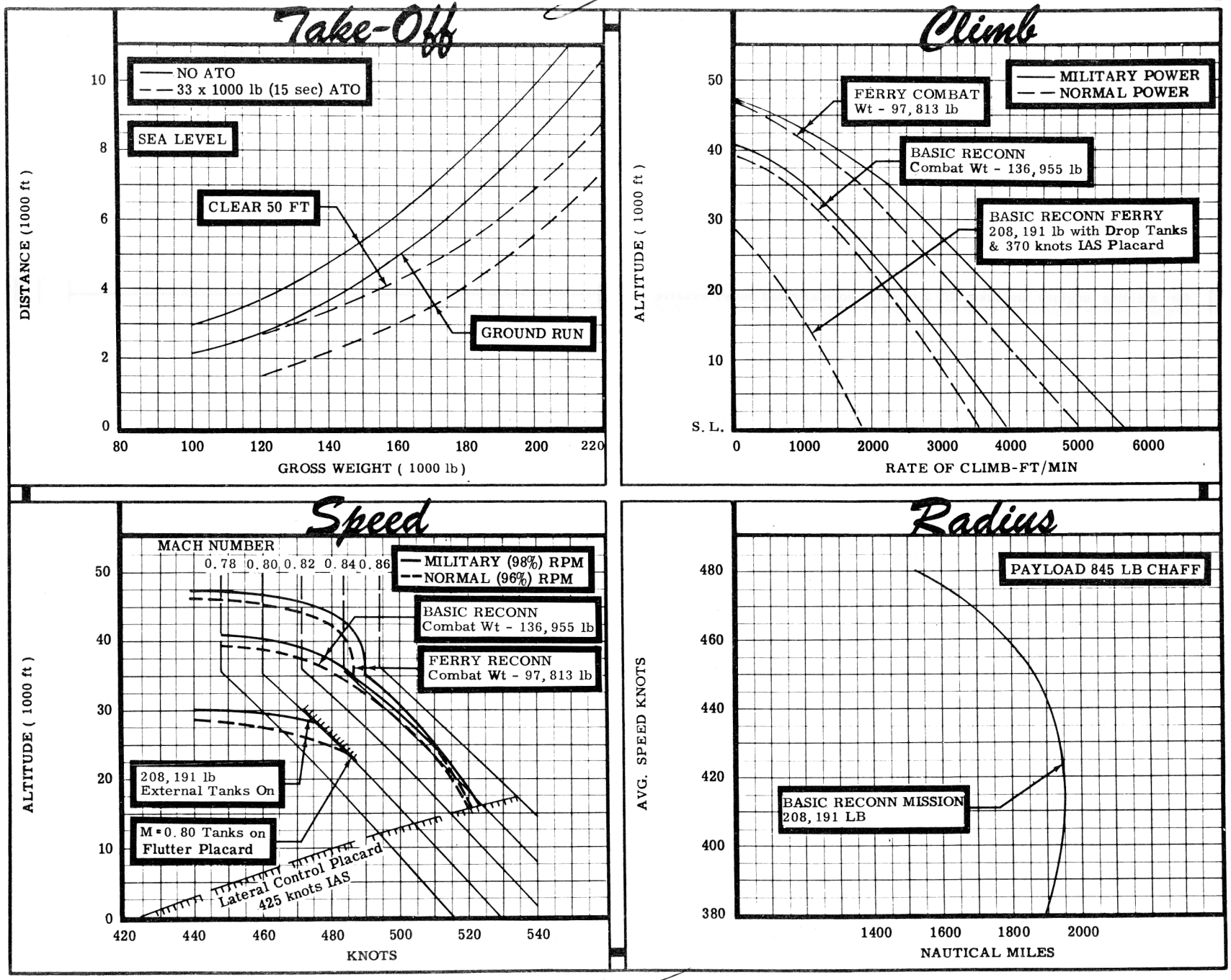
Loading and Performance — Typical Mission

CONDITIONS		BASIC MISSION	FERRY RANGE
TAKE-OFF WEIGHT ⑤	(lb)	I 220,600	II 220,600
Fuel at 6.5 lb/gal (Grade JP-3)	(lb)	119,405	119,405
Payload	(lb)	845 ⑥	845 ⑦
Payload	(lb)		
Wing Loading ⑪	(lb/ft^2)	151	151
Stall Speed (Power off) ⑫	(kn)	162	162
Take-off Ground Run at Sea Level ① ⑬	(ft)	10,100	10,100
Take-off Ground Run with ATO ① ④	(ft)	6900	6900
Take-off to clear 50 feet ①	(ft)	11,700	11,700
Take-off to clear 50 feet with ATO ① ④	(ft)	8350	8350
Rate of Climb at Sea Level ③ ⑩	(fpm)	1839	1839
Rate of Climb at Sea Level (one engine out) ② ⑩	(fpm)	1432	1432
Time - Sea level to 20,000 ft ② ⑩	(min)	15.5	15.5
Time - Sea level to 27,600 ft (service ceiling) ③ ⑩	(min)	32.8	32.8
Service Ceiling (100 ft/min) ③ ⑩	(ft)	27,600	27,600
Service Ceiling (one engine out) ② ⑩	(ft)	21,100	21,100
COMBAT RANGE ⑧	(n m)	———	3935
COMBAT RADIUS ⑧	(n m)	1942	———
Average Speed	(kn)	425	425
Initial Cruising Altitude	(ft)	27,000	27,000
Target Speed ③	(kn)	459	———
Target Altitude	(ft)	37,350	———
Final Cruising Altitude	(ft)	42,000	41,750
Total Mission Time	(hr)	9.43	9.39
COMBAT WEIGHT	(lb)	136,955	97,813
Combat Altitude	(ft)	37,350	41,800
Combat Speed ②	(kn)	479	486
Combat Climb ②	(fpm)	533	1222
Combat Ceiling (500 fpm) ②	(ft)	37,900	44,950
Service Ceiling (100 fpm) ③	(ft)	38,850	46,000
Service Ceiling (one engine out) ③	(ft)	36,000	43,150
Maximum Rate of Climb at Sea Level ②	(fpm)	3960	5670
Maximum Speed at Optimum Altitude ②	(kn/ft)	523/15,600	523/15,600
Basic Speed at 35,000 ft ②	(kn)	486	490
LANDING WEIGHT	(lb)	96,968	97,813
Ground Roll at Sea Level	(ft)	4700	4750
Ground Roll (with auxiliary brake) ⑨	(ft)	2750	2750
Total from 50 ft	(ft)	5810	5860
Total from 50 ft (with auxiliary brake) ⑨	(ft)	3860	3860

NOTES

① Take-off power with medium flow water augmentation
② Military power
③ Normal power
④ With 33 x 1000 pound external ATO
⑤ Includes 2706 pound ATO propellant and 5300 lb water-alcohol. Includes ATO rack and bottles.
⑥ Chaff - Dropped in target area
⑦ Chaff - Not dropped during mission
⑧ Detailed descriptions of missions are given on page 6
⑨ With 32-foot brake chute
⑩ External ATO rack and bottles jettisoned
⑪ Based on take-off weight minus water-alcohol and ATO propellant
⑫ Based on take-off weight minus water-alcohol and ATO propellant, rack, and bottles
⑬ Based on take-off weight minus 5000 lb

PERFORMANCE BASIS:
(a) Data Source: Calculated data based on flight tests of RB-47H AF 53-4280 per WFT-824B, June 1956, and RB-47H AF 53-4280 per report AFFTC-TN-55-22, dated October 1955, "RB-47H Limited Phase IV Performance Evaluation."


Take-Off
NO ATO
33 x 1000 lb (15 sec) ATO
SEA LEVEL
CLEAR 50 FT
GROUND RUN
DISTANCE (1000 ft)
GROSS WEIGHT (1000 lb)
Climb
MILITARY POWER
NORMAL POWER
FERRY COMBAT
Wt - 97, 813 lb
BASIC RECONN
Combat Wt - 136, 955 lb
BASIC RECONN FERRY
208, 191 lb with Drop Tanks
& 370 knots IAS Placard
ALTITUDE (1000 ft)
RATE OF CLIMB-FT/MIN
Speed
MACH NUMBER
0.78 0.80 0.82 0.84 0.86
MILITARY (98%) RPM
NORMAL (96%) RPM
BASIC RECONN
Combat Wt - 136, 955 lb
FERRY RECONN
Combat Wt - 97, 813 lb
208, 191 lb
External Tanks On
M = 0.80 Tanks on
Flutter Placard
Lateral Control Placard
425 knots IAS
ALTITUDE (1000 ft)
KNOTS
Radius
PAYLOAD 845 LB CHAFF
BASIC RECONN MISSION
208, 191 LB
AVG. SPEED KNOTS
NAUTICAL MILES

NOTES

FORMULA: RADIUS MISSION I

Take-off, climb on course to optimum cruise altitude at normal rated power, and cruise out at long range speeds and altitudes. Release drop tanks when empty. Climb so as to reach cruise ceiling 15 minutes before reaching the target area. Run into the target area at normal rated power, release chaff, and take photos during run. Conduct 2-minute normal rated power evasive action and 8-minute normal rated power escape. Attain optimum cruise altitude during escape. Cruise to home base at optimum speeds and altitudes. Range free allowances are 5 minutes at normal rated power for starting engines and take-off, 2 minutes normal rated power evasive action, and a reserve of 5% of initial fuel plus 30 minutes endurance fuel at sea level.

FORMULA: FERRY RANGE MISSION II

Take-off, climb on course to optimum cruise altitude at normal rated power, and cruise out at long range speeds and altitudes. Release drop tanks when empty. Arrive over destination with 5% of initial fuel plus fuel for 30 minutes endurance at sea level. Range free allowances are 5 minutes at normal rated power for starting engines and take-off and reserve fuel. (Ferry range mission is computed for "combat ready" configuration and the gross weight includes 845 pounds chaff and 700 rounds of ammunition, neither of which is used in flight).

GENERAL NOTES

a. Performance is based on RB-47H flight test data per WFT 824B (June 1956) and AFFTC-TN-55-22, "RB-47H Limited Phase IV Performance Evaluation."

b. For detailed mission planning, refer to T.O. 1B-47(R)H-1.

c. Normal ATO techniques is for ATO rockets of 15-second duration, fired 10 seconds before take-off.

d. Displacement rack must be used in carrying (19) 15KS1000 ATO bottles. Airplane may also carry (30) 16NS1000 ATO bottles manufactured by Philips Petroleum.

e. Engine ratings shown on page 3 are manufacturer's guaranteed ratings. Power values used for performance calculations are as follows:

(6) J47-GE-25			
S. L. Static	Thrust (lb)	Rpm	Minutes Allowable
Take-off	6770	7950	5
Military	5640	7800	30
Normal	5270	7630	Cont

REVISION BASIS:

Initial issue

PERFORMANCE REFERENCE

(1) AFFTC-TN-55-22 "RB-47H Limited Phase IV Performance Evaluation."

(2) Boeing Document WD-14204 "RB-47H Drag Determination and Airspeed Calibration."

(27 JUN 56)